A Synopsis for Ph.D. Registration
On
The Topic Entitled

An In-depth Analysis of Role of Financial Technology in Promoting Financial Inclusion in Jharkhand: A Case Study of Ranchi District

Submitted in Partial fulfillment for the award of Degree of Ph.D.
Under the
University Department of Commerce and Business Management,
Ranchi University, Ranchi

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2024

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INTRODUCTION

In India, the conventional banking system is struggling to serve the interests of underprivileged groups, particularly women. Financial Technology can bridge this gap and increase financial inclusion, if implemented cautiously and with the appropriate safeguards.

Due to the limited physical presence of conventional financial institutions in India, banks face difficulty in providing services to a significant portion of the population, especially in rural areas. This scarcity limits formal banking access, increasing annoyance and increased costs for people who had to commute long distances to reach to their nearest banks. Furthermore, many people are discouraged from using banking services by the burdensome paperwork and strict documentation requirements, especially those with low levels of education and literacy.

Traditional banking presents extra difficulties for women due to biases based on gender that limits their financial autonomy. Women are further marginalized by cultural norms and collateral requirements for loans. As a result, a large number of women disproportionately lack access to vital finance, which hampers their ability to become financially independent and achieve economic empowerment through entrepreneurship.

In India, fintech companies are making a big contribution to closing this gender inequalities and advancing financial inclusion. Through the use of technology, these businesses assist women and other marginalized groups gain greater authority by improving the accessibility, affordability, and use of financial services. This improvement is demonstrated by the Reserve Bank of India's Financial Inclusion Index, which increased from 43.4 in 2017 to 56.4 in 2022 primarily as a result of improved financial access. By creating novel financial products like peer-to-peer lending, digital wallets, mobile money, and micro-insurance, fintech companies are leading the way in this financial revolution. Through programs like Digital India and the creation of India Stack, a strong digital infrastructure, the Indian government has been instrumental in driving the fintech industry forward. The JAM trinity -Jan Dhan, Aadhar, and mobile internet connectivity [1] - has made it possible for people to access financial services via cell phones, particularly for women and underrepresented enterprises.

Furthermore, the Unified Payment Interface, which enables smooth transactions between bank accounts and mobile phone numbers, has completely transformed the digital payment ecosystem in India.

[1] https://blogs.adb.org/blog/how-fintech-can-enable-financial-inclusion-and-reduce-gender-gaps-India

CONCEPT OF FINANCIAL TECHNOLOGY

The word "fintech" (financial technology) comprises software, mobile apps, and other technologies designed to enhance and automate conventional financial services for both consumers and enterprises. FinTech encompasses a wide range of products and services, from sophisticated blockchain networks that store encrypted transactions to mobile payment apps.

Automation of banking services, trading, investments, insurance, and risk management has all been made possible by financial technology.

One category of computerized financial advisors is called Robo-advisers, and they offer online investment management or financial advice with little to no human involvement. [2]

The Fintech market in India is expanding at one of the quickest rates globally. The market for fintech in India is expected to reach $50 billion in 2021 and over $150 billion by 2025[3]. India, with its increasing population and quickly expanding economy, is at the forefront of the global fintech movement. The nation's financial landscape has changed, enabling millions of people and enterprises, as the combination of financial services and cutting-edge technology has unleashed a wave of innovation.

India has a robust and successful fintech ecosystem, which includes a diverse range of start-ups, established firms, and innovative solutions in payments, loans, insurance, wealth management, and other areas. The Indian government has taken a proactive approach to promoting fintech growth through policy measures and regulatory reforms. The foundation for increased financial inclusion and digital empowerment has been established by the introduction of programs like Digital India, Jan Dhan Yojana, and Aadhaar-enabled services.

In order to encourage innovation and maintain financial stability and consumer protection, regulatory agencies such as the Securities and Exchange Board of India (SEBI) and the Reserve Bank of India (RBI) have established frameworks and rules. To encourage experimentation and cooperation between fintech start-ups and conventional financial institutions, regulatory sandboxes have been set up. In India, fintech has a significant influence on underprivileged and rural areas that have no access to conventional banking infrastructure. Digital lending platforms have made credit more accessible to the general public, giving consumers and small enterprises more options for financing.

With its ease of use, cost-effectiveness, and security over cash-based transactions, mobile payment systems have completely changed the way consumers deal. Furthermore, the public is now more resilient and financially literate because to fintech advancements in wealth management, insurance, and financial education.

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[2] Wikipedia contributors. (2024, July 24). *Fintech*. Wikipedia. https://en.wikipedia.org/wiki/Fintech

[3] Financial Services Sector in India | Fintech Industry in India (investindia.gov.in)

Fintech is positioned to play a critical role in advancing financial inclusion, economic growth, and social development as India moves closer to becoming a digital economy. But in order to realize the full potential, issues like cybersecurity risks, data privacy issues, and regulatory complexities need to be addressed.

By fostering collaboration between stakeholders, leveraging emerging technologies, and promoting responsible innovation, India can harness the transformative power of fintech to create a more inclusive and prosperous future for all.

DEFINITION OF FINANCIAL TECHNOLOGY

FinTech is: "a cross-disciplinary subject that combines Finance, Technology Management and Innovation Management." "Any innovative ideas that improve financial service processes by proposing technology solutions according to different business situations, while the ideas could also lead to new business models or even new businesses" [4]

Mr. Abraham Leon Bettinger (Prabook, 2016) provided the following definition "FINTECH is an acronym which stands for financial technology, combining bank expertise with modern management science techniques and the computer." (Bettinger, 1972, p.62) [5]

According to Chris Skinner, **"**Financial technology **(**FinTech **or** fintech**)** is the new technology and innovation that aims to compete with traditional financial methods in the delivery of financial services"

Adoption of Financial technologies in Jharkhand

The adoption of financial technology in Jharkhand is steadily gaining momentum, driven by a combination of factors such as increasing smartphone penetration, improving internet connectivity and a growing demand for accessible financial services. Financial technologies (fintech) adopted so far are:

- **Digital Payments**: - Mobile Wallets: In Ranchi city, over 80% of urban residents use Paytm, PhonePe and Google pay for bill payments and mobile recharges. Paytm users are largest in terms of transaction, however, PhonePe and Google pay are most commonly used for UPI transaction.

[4] Leong, K., & Sung, A. (2018). FinTech (Financial Technology): what is it and how to use technologies to create business value in fintech way? *International Journal of Innovation, Management and Technology*, *9*(2), 74-78.

[5] Schueffel, P. (2016). Taming the beast: A scientific definition of fintech. *Journal of Innovation Management*, *4*(4), 32-54.

BHIM-UPI: In urban areas of Ranchi, more than 70% of small businesses accept UPI payments, with daily transaction volumes exceeding ₹10,30,000 as per Niti Aayog report.

- **Aadhaar Enabled Payment System (AePS):** In rural areas of Ranchi district, including Ormanjhi, Mandar, and Tamar, AePS transactions have seen notable growth, with over thousands of transactions processed in the last quarter.

- **Digital Banking**: Internet Banking: HDFC Bank's internet banking portal records a significant number of transactions per month in Ranchi, with utility bill payments being the most common. Rural areas of Kanke, Namkum, and Ratu also contribute significantly to these transactions.

  Mobile Banking Apps: ICICI Bank's mobile app has been widely adopted in Ranchi, with considerable usage in urban and rural areas such as Bundu and Sonahatu.

- **Online Lending Platforms**: - P2P Lending: Faircent has facilitated loans to small businesses in Ranchi district over the past year, with notable participation from rural areas like Arki and Torpa.

  Microfinance Institutions (MFIs): Utkarsh Small Finance Bank disbursed microloans to women entrepreneurs in rural Ranchi in the last quarter, benefiting villages in areas like Burmu and Lapung.

- **Insurance Technology (Insurtech):** Online Insurance Portals: PolicyBazaar witnessed a significant increase in policy purchases from Ranchi residents last year, with health insurance being the most sought-after product. Both urban and rural areas, including Nagri and Chanho, have contributed to this surge in online insurance purchases.

  Digitized Claims Processing: SBI Life Insurance processed health insurance claims digitally in Ranchi city last month. Rural areas such as Mandar and Ratu also experienced efficient digital claims processing.

- **Financial Education Initiatives:** Digital Literacy Programs: JSLPS conducted digital literacy workshops in rural areas of Ranchi district, including Ormanjhi, Bundu, and Tamar, reaching many villagers, with 85% reporting improved understanding of digital financial services.

  Training Workshops: Tata Trusts partnered with local NGOs to organize fintech training workshops in Ranchi city, benefiting over 600 individuals, of whom 95% have adopted digital payment systems.

FINANCIAL INCLUSION

Financial inclusion refers to efforts to make financial products and services accessible and affordable to all individuals and businesses, regardless of their income and savings. Financial inclusion strives to remove the barriers that exclude people from participating in the financial sector and using these services to improve their lives [6]. It is also called inclusive finance. Financial inclusion is the process of ensuring access to financial products and services needed by vulnerable groups at an affordable cost in a transparent manner by institutional players.[7] The concept of financial inclusion was first introduced in India in 2005 by the Reserve Bank of India.[8] Pradhan Mantri Jan Dhan Yojana (PMJDY) is National Mission for Financial Inclusion to ensure access to financial services, namely, Banking/ Savings & Deposit Accounts, Remittance, Credit, Insurance, Pension in an affordable manner. [9]

Financial Inclusion Schemes in India

The Government of India has been introducing several exclusive schemes for the purpose of financial inclusion. These schemes intend to provide social security to the less fortunate sections of the society. These schemes have been launched over different years. Let us take a list of the financial inclusion schemes in the country:

- Pradhan Mantri Jan Dhan Yojana (PMJDY)
- Atal Pension Yojana (APY)
- Pradhan Mantri Vaya Vandana Yojana (PMVVY)
- Stand Up India Scheme
- Pradhan Mantri Mudra Yojana (PMMY)
- Pradhan Mantri Suraksha Bima Yojana (PMSBY)
- Sukanya Samriddhi Yojana
- Jeevan Suraksha Bandhan Yojana
- Credit Enhancement Guarantee Scheme (CEGS) for Scheduled Castes (SCs)
- Venture Capital Fund for Scheduled Castes under the Social Sector Initiatives
- Varishtha Pension Bima Yojana (VPBY)

DEFINITION OF FINANCIAL INCLUSION

According to Gortsos, (2016): financial inclusion is defined "as the process of ensuring affordable, prompt and adequate access to a wide range of financial products and services, as well as proliferation to their use in all parts of society with a special focus on vulnerable groups, through the implementation of existing and innovative approaches, such as financial literacy programmes". [10]

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[6] Grant, M. (2024, March 12). Financial Inclusion: Definition, Examples, and Why It's Important. Investopedia.https://www.investopedia.com/terms/f/financial-inclusion.asp/

[7] Business Standard. (n.d.). What is financial inclusion, financial inclusion Definition, Financial inclusion News. www.business-standard.com. https://www.business-standard.com/about/what-is-financial-inclusion/1

[8] Sharma, S., & Sharma, R. (2021). Financial inclusion in India. Journal of Emerging Technologies and Innovative Research, 8(9). https://www.jetir.org/papers/JETIRFB06002.pdf

[9] Faqs pmjdy | Union Bank of India. (n.d.). https://www.unionbankofindia.co.in/english/faq-pmjdy.aspx

[10] Rosa, A., Federico, D., & Notte, A. (2024). Financial Inclusion Literature Review: Definition, Measurement, and Challenges. *The Role of Financial Inclusion for Reaching Sustainable Development Goals*, 28-46

According to Sarma (2012, p. 3) defines financial inclusion as "the process that ensures the ease of access, availability, and usage of formal financial system for all members of an economy. This definition emphasizes several dimensions of financial inclusion, viz., accessibility, availability and usage of the formal financial system." [11]

According to Schwittay (2011): financial inclusion is a global assemblage of subjects, technics, and rationalities that aim to develop poor-appropriate financial products and services.[12]

According to Kempson and Collard (2012), "a financially inclusive society would be one in which everyone had the ability to manage day-to-day financial transactions meet one-off expenses; manage a loss of earned income; avoid/reduce problem debt".[13]

Thus, it focuses on providing financial solutions to the economically underprivileged. The term is broadly used to describe the provision of savings and loan services to the impoverished in an inexpensive and easy-to-use form [14]. It aims to ensure that the underprivileged and excluded groups make the best use of their money and attain financial education. With advances in financial technology and digital transactions, more and more start-ups are now making financial inclusion simpler to achieve.

FINANCIAL INCLUSION IN JHARKHAND

A good financial eco-system is developing in Jharkhand. Different types of financial institutions which include banking, non-banking and insurance companies have deepened their roots in the urban as well as in the rural areas of the state, as a result of which a fast expansion in the in the network of financial institutions has taken place in the recent years. This has also resulted in a healthy increase in the deposits as well as the advances of the state. As of 31st March 2015, there were about 2,799 bank-branches and about 2,608 ATMs in the state which increased to about 3,050 and 3,452 respectively by the end of 31st March 2023. At present, about 47 per cent of these bank-branches and 14 per cent of the ATMs are operational in the rural areas of the state. The penetration-level of the banking and other financial institutions has also increased remarkably in the state. The availability of bank offices/branches and ATMs per one lakh population has increased from 6.2 to 8.6 and 3.3 to 10.5 respectively between 2011 and 2023. Similarly, the number of bank offices/branches per 1000 sq.km. has also increased

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11 Rosa, A., Federico, D., & Notte, A. (2024). Financial Inclusion Literature Review: Definition, Measurement, and Challenges. *The Role of Financial Inclusion for Reaching Sustainable Development Goals*, 28-46

12 Rosa, A., Federico, D., & Notte, A. (2024). Financial Inclusion Literature Review: Definition, Measurement, and Challenges. *The Role of Financial Inclusion for Reaching Sustainable Development Goals*, 28-46

13 Rosa, A., Federico, D., & Notte, A. (2024). Financial Inclusion Literature Review: Definition, Measurement, and Challenges. *The Role of Financial Inclusion for Reaching Sustainable Development Goals*, 28-46

14 Business Standard. (n.d.-b). *What is financial inclusion, financial inclusion Definition, Financial inclusion News*. www.business-standard.com. https://www.business-standard.com/about/what-is-financial-inclusion

by about 65 per cent (25.7 to 42.4) during the same period whereas, the number of ATMs has increased by about 284 per cent (13.6 to 52.1) in the same period.

The Credit-Deposit ratio which is an indicator of credit growth has started improving again in the state after a lean patch of a few years. It is about 45 per cent now but it can be expected that it will again cross the 60 per cent benchmark very soon. The CD ratio of the state was about 60.3 per cent in the year 2018. The credit-flow to the priority sector has also improved in the recent years. Similarly, PM-Kisan and KCC schemes have been performing well to improve the financial conditions of farmers in the state. Both these schemes have over 13 lakh beneficiaries in the state.

The state has also witnessed much improvement on the front of financial inclusion. The number of bank offices/branches in Tier-V (5,000 to 9,999) and Tier VI (less than 5,000) categories, which represent small proportions of population who mainly live in the rural areas and are largely unbanked, has increased from 135 to 347 and 763 to 1,100 respectively between 2006 and 2023.

Thus, in terms of the ease in access to financial services by these people, this expansion in the network of banks will be of great help in improving the financial inclusion in the state. To increase the financial inclusion, about 1.80 crores Jan Dhan accounts have been opened till 30th September 2023 in the state and about 11.45 lakhs of these accounts were opened in the last twelve months only. The Targeted Financial Inclusion Intervention scheme which is operational in the 19 aspirational districts is increasing the degree of financial inclusion in the state.

Things are moving in the desired direction. Financial institutions are expanding in terms of networks and at the same time, the range of financial services are available in offline and online/digital modes. The demographic and geographic density of financial institutions has improved to a significant level. The direct benefit-transfer-schemes have fulfilled up to some extent the basic requirements of financial inclusion. In Ranchi, financial inclusion efforts are witnessing tangible progress. Government led initiatives such as Pradhan Mantri Jan Dhan Yojana have played a pivotal role in promoting financial inclusion. [15]

DEMOGRAPHIC & ECONOMIC PROFILE OF JHARKHAND

The 28th State of India, Jharkhand was brought into existence by the Bihar State Reorganisation Act on 15th Nov 2000 with 22 districts which now has risen to 24 districts distributed over an area of 79,714 sq. km. The territory of this state is bound by the state of Bihar on the north, West Bengal on the east, Orissa on the south & Chhattisgarh on the west. The state extends between 22 degrees north and 22.50 degrees north latitudes and 83 degrees east and 87.775 degrees east latitudes approx.[16] Physically, Jharkhand is characterized by the Chhota Nagpur Plateau, which further consists of series of plateaux of different elevations- i.e., Ranchi plateau, Ramgarh plateau and Hazaribagh plateau. Technically, these regions have witnessed three organic movements, which are also responsible for the rich mineral deposits.

[15] https://finance.jharkhand.gov.in/pdf/Budget_2024_25/Jharkhand_Economic_Survey_2023_24.pdf

[16] http://slbcjharkhand.in/profile.html

Jharkhand has some of the richest deposits of iron & coal in the world. It is also blessed with rich fauna & flora. [17]

Table 1:

Population, Geography and Infrastructure

Population	3.29 crore	-
ST	-	28% of total
SC	-	12% of total
Per Capita Income	Rs. 4,161	-
Density of Population	338 persons/Sq. KM	-
No. of Districts	24	-
No. of Sub divisions	33	-
No. of Blocks	259	-
No. of Villages	32,620	-
No. of Villages Electrified	14,667	45 % of total
No. of Villages connected by Roads	8,484	-
National Highways	1,006 KM	-
State Highways	4,662 KM	-
Health centres	506	-
Schools	21,386	-
Universities	5	Incl. one Deemed University
Total Geographical Area	79.70 Lakh Hectares	-
Forest	-	29% of total area

Source: http://slbcjharkhand.in/profile.html

[17] http://slbcjharkhand.in/profile.html

Table 2:

Economic Profile

Population (2001 Census)	2.7 crore
Males	1.39 crore
Females	1.31 crore
Urban Population %	22.25
Literacy Rate (Census 2001) in %	53.60
Male Literacy in %	67.30
Male Literacy in nos.	0.77 crore
Female Literacy in %	38.90
Female Literacy in nos.	0.42 crore
NSDP at current prices (2002-03)	27,358 crores
Per CAPITA NSDP (2002-03) at current prices	9,955 crores

Source: http://slbcjharkhand.in/profile.html

RANCHI DISTRICT

Ranchi district is the most populous district of Jharkhand state in eastern India. Ranchi, the capital of Jharkhand, is the district headquarters. It was established as a district in 1899. [18]

Blocks/Mandals

Ranchi district consists of 18 Blocks. The following are the list of the Blocks in Ranchi district:

No.	Ranchi subdivision	Bundu subdivision
1	Burmu	Rahe
2	Khelari	Bundu
3	Kanke	Sonahatu
4	Ormanjhi	Tamar
5	Silli	
6	Angara	

[18] Wikipedia contributors. (2024a, May 29). Ranchi district. Wikipedia. https://en.wikipedia.org/wiki/Ranchi_district#:~:text=The%20district%20has%20a%20population,population%20lives%20in%20urban%20areas.

7	Namkum	
8	Ratu	
9	Nagri	
10	Mandar	
11	Chanho	
12	Bero	
13	Itki	
14	Lapung	

FINANCIAL INFRASTRUCTURE OF JHARKHAND

In the state of Jharkhand, the commercial banks dominate the financial sector. Such banks constituted for about 78.5 per cent of the total bank branches in the state. This has been followed by the Regional Rural banks (RRBs) which constituted about 13 per cent of the total bank branches in the state.

The state government has given necessary impetus on financial inclusion which has resulted in the opening of small finance banks across state. Small finance banks are a specific segment of banking created by the RBI under the guidance of the Government of India (GOI). The main function of these small finance banks is to undertake basic banking activities to unserved and under-served sections including small business units, small and marginal farmers, micro and small industries and unorganized entities. Like any other entity, these small finance banks can undertake all basic banking activities including lending and accepting deposits. As per the 79th SLBC report the average annual growth rate (CAGR) in the number of small finance banks for the period 2019-20 to 2021-22 is 10.17 per cent. Currently, there are total 125 small finance bank in Jharkhand. (as on 30.09.2023)

The overall financial health of Jharkhand has improved over time. The total number of bank branches have increased from 2711 in financial year 2014-15 to 3210 in the financial year 2023-24. Banks such as the Scheduled Commercial Banks, Regional Rural Banks, Cooperative Banks and NBFCs have given more than 50 per cent of credit to the priority sector and sectors which are of strategic importance such as Agricultural Sector and Medium and Small-Scale Industries. A substantial part of credit and advances have been received by the Non-Priority Sector as well.

STATE GOVERNMENT INITIATIVE AIMED AT PROMOTING FINANCIAL INCLUSION

Some of the government initiatives in Jharkhand specifically aimed at promoting financial inclusion are:

- Jharkhand State Livelihood Promotion Society (JSLPS): JSLPS implements various initiatives to promote financial inclusion among rural communities in Jharkhand. This includes the promotion of self-help groups (SHGs), microfinance, and livelihood enhancement programs to empower women and marginalized groups through access to financial services and resources.
- Mukhyamantri Krishi Ashirwad Yojana (MKAY): While primarily focused on agricultural support, MKAY also aims to enhance financial inclusion among farmers in Jharkhand by providing financial assistance and incentives for agricultural activities. This helps farmers access credit, inputs, and other financial services to improve productivity and income levels.
- Jharkhand State Rural Livelihood Mission (JKSRLM): JKSRLM works towards enhancing financial inclusion and livelihood opportunities for rural communities in Jharkhand. Through various programs and initiatives, including community-based financial institutions and livelihood promotion activities, JKSRLM aims to empower rural households economically and socially.
- Mukhyamantri Shramik Yojana: This scheme provides financial assistance and social security benefits to workers in the unorganized sector, including access to banking and financial services. By promoting financial inclusion among informal workers, the scheme aims to improve their financial resilience and well-being.
- Jharkhand State Cooperative Bank (JSCB) Initiatives: The JSCB, along with other cooperative banks in the state, plays a significant role in promoting financial inclusion in Jharkhand. They offer various financial products and services tailored to the needs of rural and underserved populations, including agricultural credit, savings accounts, and microfinance.

  Digital India Initiatives: The central government's Digital India initiatives, including Aadhaar-enabled services, digital payments, and financial literacy campaigns, also contribute to promoting financial inclusion in Jharkhand. These initiatives aim to leverage technology to expand access to financial services, particularly in rural and remote areas of the state. These government initiatives in Jharkhand are aimed at addressing the unique challenges of financial exclusion and promoting inclusive growth by expanding access to financial services, enhancing financial literacy, and empowering marginalized communities economically.

Financial inclusion holds the potential to transform tribal states like Jharkhand by empowering individuals across various socio-economic categories. By providing access to financial services, like savings accounts, credit facilities, insurance, and investment opportunities, financial inclusion ensures that marginalized groups, including women, unbanked individuals, those below the poverty line, and tribal communities, have the tools to improve their socio-economic status. For those living below the poverty line or belonging to tribal communities, financial inclusion offers opportunities to break free from cycles of poverty, access credit for livelihood activities, and build a more secure future for themselves and their families. Moreover, by extending financial services to unbanked individuals, financial inclusion promotes social inclusion and economic empowerment, fostering greater equity and resilience within society.

FINTECH CONTRIBUTION TO FINANCIAL INCLUSION IN JHARKHAND

India was cash-based economy; however, due to influx of the UPI in 2016, volume of online transactions has increased manifold. A large section of society has adapted themselves to this unified mechanism due to its seamless and user-friendly interface. The total electronic transaction of both India and Jharkhand has increased over time after the introduction of UPI. For Jharkhand, the percentage transaction in the state out of the total transaction across India was merely 0.3 percent in the financial year 2016-17. This percentage increased to around 4 per cent as on march 2024.

Table 3:

Total Number of Electronic Transactions per 1000 population (India - Jharkhand Comparison)

Time Period	Jharkhand	India	Percentage transaction in State out of total Transaction across India
2016-17	2,04,02,673	5,96,17,92,429	0.342
2017-18	2,49,12,924	4,67,41,00,699	0.532
2018-19	3,74,58,293	6,64,36,62,978	0.563
2019-20	4,76,38,095	6,94,22,72,626	0.686
2020-21	3,66,43,051	5,51,64,10,561	0.664
2021-22	9,31,55,499	8,05,27,78,554	1.156
2022-23	47,78,13,891	12,49,46,76,604	3.824
2023-24	44,77,35,942	11,67,52,89,240	3.834

Source: *https://etaal.gov.in/etaal/PopReportCensus.aspx*

Role of financial technology in promoting financial inclusion

Use of mobile phone and financial technology is accelerating, allowing more people to gain access to financial services. As financial technology has advanced and proliferated, financial inclusion—which attempts to guarantee that everyone has access to financial services including savings, credit, insurance, and payments—has significantly improved.

By facilitating trade and providing individuals with a safe means of accumulating and safeguarding wealth, the growth of digital access to financial services lowers poverty and inequality. Additionally, it stimulates economic growth by making loans more accessible to help small firms and maintain consumer spending. Fintech platforms can help microfinance institutions to gain access to a wider audience and lend small loans to farmers and business owners, promoting empowerment and economic progress. Fintech initiatives possess the ability to serve as a link between traditional banking services and Jharkhand's unbanked or underbanked population, thereby advancing financial inclusion and fostering the state's socioeconomic growth.

Financial technology (fintech) is instrumental in driving financial inclusion in Jharkhand through innovative digital solutions that overcome traditional barriers to banking services. Here's how fintech contributes to financial inclusion in the state: -

1. Enhanced Access to financial services: Fintech platforms like mobile banking apps extend financial services to remote areas, allowing individuals to conveniently conduct transactions from their homes.

2. Affordability: Fintech solutions offer lower costs compared to traditional banking, making basic services accessible to those with limited resources.

3. Innovative Credit Solutions: Fintech companies use alternative data and analytics to provide loans to individuals without a credit history, promoting entrepreneurship and economic growth.

4. Financial Literacy: Fintech platforms incorporate educational resources to empower users with financial knowledge, enabling informed decisions and better money management.

5. Government Benefit Disbursements: Fintech solutions digitize government benefit payments, ensuring timely and efficient disbursement to eligible recipients, while reducing leakage and corruption. Overall, fintech's role in expanding access, affordability, credit availability, promoting financial literacy, and digitizing government benefits contributes to empowering individuals, fostering economic development, and building a more inclusive financial ecosystem in Jharkhand.

6. Empowerment- Fintech provide individuals, including women, with access to banking services and digital payment platform, enabling them to manage their finances independently and participate more actively in economic activities.

LITERATURE REVIEW

Kandpal, V., & Mehrotra, R. (2019) [19]: Aims to explore financial inclusion efforts, the role of Fintech in providing financial services, challenges, and opportunities in the sector to understand how these factors can benefit the rural population and drive economic growth in India.

Raj and Upadhyay (2020) [20]: Discussed the role of fintech in accelerating financial inclusion in India. They defined fintech as technology enabled financial innovation and discussed how it can reshape financial services and increase competition. They also looked at regulatory initiatives taken to spur the fintech movement in India and the framework for regulatory Sandbox in India.

Chouhan, Goswami and Sharma (2022) [21]: Investigated the critical success factors influencing the adoption of disruptive financial technology for financial inclusion in rural India. Research empirically measured the impact of technology in promoting entrepreneurship in under-developed regions for future adoption of financial technology in rural areas.

Neelam and Bhattacharya (2022)[22]: Explored user behaviour for technology adaption of financial transactions and reviewed the contribution of digital technology in financial inclusion, also suggested some directions to policy makers towards furthering the initiatives for financial inclusion.

Asif, Khan, Tiwari and Wani (2023)[23]: Explored the relationship between financial technology and financial inclusion considering digital financial literacy as a mediator and perceived regulatory support as a moderator.

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[23] Asif, M., Khan, M. N., Tiwari, S., Wani, S. K., & Alam, F. (2023). The impact of fintech and digital financial services on financial inclusion in India. *Journal of Risk and Financial Management*, *16*(2), 122.

Dedhia (2024)[24]**:** Provided a comprehensive review of the literature, delving into topics related to financial inclusion, its impact on economic growth, and its implications for gender disparities.

Harsono, I., & Suprapti, I. A. P. (2024).[25]**:** Attempted to understand the impact of Fintech on traditional financial services, including its influence on operational efficiency, financial inclusivity, security, and user experience. Additionally, we explore the concept of openness in banking through APIs and its role in fostering innovation and competition. The research also identifies challenges such as security risks, regulatory adaptation, and socio-economic impacts, along with gaps in research related to security, regulation, and global integration in the Fintech industry.

RESEARCH GAP

While existing studies have contributed valuable insights into the impact of fintech innovations on financial inclusion in various contexts, including India, there is a notable gap in the literature regarding the specific dynamics and outcomes of fintech interventions within the city of Ranchi, Jharkhand. Despite the growing importance of fintech in promoting financial inclusion nationally, there is limited research that examines the adoption rates, usage patterns, and satisfaction levels of fintech tools among underserved populations within Ranchi. Furthermore, while regulatory frameworks and government policies have been explored in relation to fintech and financial inclusion at a broader level, there is a lack of research evaluating their specific implications for Ranchi. Therefore, there is a clear need for research that focuses specifically on Ranchi to critically examine the impact of fintech innovations on enhancing financial inclusion, assess adoption rates among underserved populations, evaluate the role of regulatory frameworks and policies, and quantify the effects of fintech initiatives on key metrics of financial inclusion within this urban centre. Addressing this gap is crucial for informing targeted strategies and policy interventions to promote inclusive financial development in Ranchi, thereby contributing to the broader goal of advancing financial inclusion in India.

SIGNIFICANCE OF THE STUDY

This study holds significant importance in addressing the crucial issues of financial inclusion in Ranchi through fintech innovation. It will help tackle the problem of financial exclusion, especially in rural areas. By figuring out how fintech can help, we can boost economic growth and empower people and communities. This research will also give us insights into how financial inclusion affects overall development, empowering individuals, encouraging entrepreneurship, and reducing poverty. Moreover, this research can guide policymakers in

[24] Dedhia, N. (2023). Gender Disparities in Financial Inclusion: An Analysis of India's Policies and Practices. *Open Journal of Business and Management*, *12*(1), 430-443.

[25] Harsono, I., & Suprapti, I. A. P. (2024). The role of fintech in transforming traditional financial services. *Accounting Studies and Tax Journal (COUNT)*, *1*(1), 81-91.

creating effective strategies to promote digital financial services in Jharkhand. Additionally, understanding the local market can help fintech companies tailor their products to better serve people in Jharkhand, leading to more innovation and economic growth. In short, studying fintech's role in financial inclusion in Jharkhand isn't just about academics—it's about making real changes that benefit society, helping everyone access financial services and fostering economic development in the region. Financial inclusion is of paramount importance in Ranchi, due to several key factors: -

- Rural and Tribal Population: Ranchi's socio-economic landscape is characterized by a significant rural population, including many tribal communities. These communities often face barriers to accessing mainstream financial services due to factors such as geographical remoteness, lack of awareness, and cultural differences. Financial inclusion is crucial in ensuring that these marginalized groups have access to basic financial services, empowering them to improve their economic well-being and break the cycle of poverty.
- Livelihood Opportunities: Many residents of Ranchi, particularly those from tribal backgrounds, rely on agriculture, handicrafts, and other traditional livelihoods for their income. Access to financial services such as credit and savings accounts can help these individuals and communities invest in agricultural inputs, modernize their production methods, and access markets more effectively, thereby enhancing their livelihood opportunities and income levels.
- Income Disparities: Ranchi, like many parts of Jharkhand, grapples with income disparities, with tribal communities often facing greater socio-economic marginalization. Financial inclusion can play a crucial role in reducing these disparities by providing opportunities for economic empowerment and wealth creation among marginalized groups. By enabling access to financial services and resources, financial inclusion can help bridge the gap between the rich and the poor, fostering greater socio-economic equity and inclusivity in Ranchi.
- Digital Divide: Ranchi's socio-economic background also includes disparities in digital access and literacy, particularly in rural and tribal areas. Financial inclusion initiatives leveraging technology, such as mobile banking, digital payments, and Aadhaar-enabled services, can help overcome the digital divide by bringing essential financial services to underserved communities. These initiatives can enhance financial access, promote digital literacy, and facilitate economic transactions, thereby contributing to Ranchi's socio-economic development and digital transformation.
- Government Initiatives: Recognizing the socio-economic challenges faced by Ranchi and other parts of Jharkhand, the government has prioritized financial inclusion as a key component of its development agenda. Various government schemes and initiatives aim to enhance financial access and literacy among marginalized communities, with a focus on empowering tribal populations and promoting inclusive growth. By aligning with these government priorities, financial inclusion efforts in Ranchi can leverage institutional support and resources to maximize their impact and reach

In summary, financial inclusion is critically important in Ranchi given its socio-economic background, including its rural and tribal population, livelihood challenges, income disparities, digital divide, and government priorities. By addressing these socio-economic realities and promoting inclusive access to financial services, Ranchi can unlock opportunities for economic empowerment, social development, and inclusive growth, ultimately improving the quality of life for all its residents, especially those from marginalized backgrounds.

OBJECTIVES OF THE STUDY

The objectives of this study are designed to address key gaps in the existing literature and to provide comprehensive insights into the role of fintech in promoting financial inclusion in Ranchi, Jharkhand. By examining the impact of fintech innovations, adoption rates among underserved populations, regulatory frameworks, usage patterns, and satisfaction levels of users, this research aims:

1. To assess the usage patterns and satisfaction levels of users of fintech services in improving financial inclusion in Ranchi.

2. To quantify the impact of fintech initiatives on key metrics of financial inclusion, such as access to credit, savings, and insurance products in Ranchi.

3. To examine the impact of fintech innovations on enhancing financial inclusion in Ranchi.

4. To examine the adoption rates of various fintech tools, such as mobile banking apps and digital payment platforms particularly among underserved populations within the context of Ranchi.

5. To study the role of regulatory frameworks and government policies in either facilitating or hindering the growth of fintech and its impact on financial inclusion in Ranchi.

HYPOTHESIS OF THE STUDY

Following hypothesis will be tested to find out the research outcome:

Null hypothesis$_1$ - H0$_1$: There is no significant impact of fintech innovations on enhancing financial inclusion in Ranchi.

Alternate hypothesis$_1$ - H1$_1$: Fintech innovations have a significant impact on enhancing financial inclusion in Ranchi

Null hypothesis$_2$ - H0$_2$: Fintech initiatives do not have a significant impact on key metrics of financial inclusions, such as access to credit, savings and insurance products in Ranchi.
Alternate hypothesis$_2$ - H1$_2$: Fintech initiatives have a significant impact on key metrics of financial inclusions, such as access to credit, savings and insurance products in Ranchi.

Null hypothesis$_3$ - H0$_3$: - There is no significant relationship between usage patterns, satisfaction levels of fintech services and financial inclusion in Ranchi.
Alternate hypothesis$_3$ - H1$_3$: There is a significant positive relationship between usage patterns, satisfaction levels of fintech services and financial inclusion in Ranchi.

Null hypothesis$_3$ - H0$_4$: The Regulatory frameworks and government policies do not significantly influence the growth of fintech or its impact on financial inclusion in Ranchi.
Alternate hypothesis$_3$ - H1$_4$: Regulatory frameworks and government policies significantly influence the growth of fintech and its impact on financial inclusion in Ranchi.

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RESEARCH METHODOLOGY:

1. Nature of the Study: The study adopts a descriptive and analytical approach to understand and analyse the current status, trends, and dynamics of FinTech adoption and its impact on financial inclusion in Ranchi.

Both quantitative and qualitative research methods will be employed to gather comprehensive insights into the topic.

The study may also be exploratory in nature, aiming to uncover new trends, challenges, and opportunities in the intersection of FinTech and financial inclusion.

2. Scope of the Study: The primary area of interest is the city of Ranchi, Jharkhand, focusing on recent years from 2020 to 2025.

Various sectors within the financial services industry, including banking, insurance, payments and lending, will be analysed to understand the broad impacts of FinTech.

3. Research Design: The study will utilize a cross-sectional study design to examine the role of FinTech in promoting financial inclusion in Ranchi.

4. Sampling Strategy: Convenience sampling will be employed to select participants from various socioeconomic backgrounds in Ranchi.

5. Sample Size: A sample size of approximately 500 respondents will be targeted to ensure adequate representation and statistical power.

These 500 respondents will be from 7 chosen blocks of Ranchi District, i.e, Kanke, Ratu, Namkum, Ormanjhi, Angara, Nagri and Mandar

6. Data Collection Methods:

Surveys: Structured surveys will be conducted to gather quantitative data on FinTech usage, satisfaction levels, and financial inclusion indicators among residents of Ranchi.

Interviews: In-depth interviews with key stakeholders such as FinTech entrepreneurs, bankers, regulators, policymakers, and community leaders will provide qualitative insights.

Primary Data: They are the original data collected directly from the source through methods like survey, interviews, experiments or observations.

Secondary Data Analysis: Existing data sources from regulatory authorities, financial institutions, and research organizations will supplement primary data.

Case Studies: Successful FinTech initiatives in Ranchi will be analysed to understand strategies, impacts, and lessons learned.

7. Variables of the Study:

Independent Variables: FinTech Adoption, Regulatory framework, socioeconomic factors.
Dependent Variables: Financial Inclusion indicators, customer satisfaction.
Control Variables: Geographic location, financial literacy, Economic conditions.

8. Research Instrument: A structured questionnaire will be utilized for quantitative data collection, while semi-structured interviews will gather qualitative insights.

9. Data Analysis and Techniques:

Descriptive Analysis: Summarize FinTech adoption and satisfaction levels using averages and percentages.
Comparative Analysis: Compare FinTech adoption rates and financial inclusion indicators between different groups.
Regression Analysis: Explore relationships between FinTech adoption, satisfaction levels, and financial inclusion outcomes.
Correlation Analysis: Calculate correlations between variables and visualize with scatter plots.

ANOVA or T-test, CHI-SQUARE

Software to be used: SPSS

LIMITATION OF THE STUDY

1. **Limited Fintech Infrastructure**: Jharkhand may have limited fintech infrastructure compared to more developed regions, potentially impacting the availability and accessibility of fintech services for research and analysis.
2. **Socio-economic Disparities:** Jharkhand's socio-economic disparities may influence fintech adoption and financial inclusion outcomes, with marginalized communities facing greater barriers to access and utilization, potentially limiting the generalizability of findings.
3. **Lack of Longitudinal Studies:** The absence of longitudinal studies tracking fintech adoption and financial inclusion outcomes over time in Jharkhand may hinder the ability to assess long-term trends and causal relationships accurately.
4. **Cultural Factors:** Jharkhand have distinct cultural practices and beliefs which may influence attitudes towards fintech adoption and financial behaviour, with factors such as trust, familiarity, and preference for traditional financial services playing a significant role, affecting the study's findings and conclusions.
5. **Low Digital Literacy Rates:** Tribal and rural communities in Jharkhand may have lower levels of digital literacy compared to urban populations, leading to challenges in adopting and utilizing fintech services effectively. This could affect the representativeness of the study sample and the generalizability of findings.

TENTATIVE CHAPTERISATION

The proposed research work is divided into the following tentative chapters:

SL. NO.	NAME OF CHAPTERS
1	Introduction & Literature Review
2	Financial inclusion through Financial Technology – A bird's eye view
3	Analysis of Financial Inclusion through Financial Technology and its impact on economic development in Jharkhand
4	Data collection, interpretations & hypothesis testing
5	Conclusion, findings & suggestion

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